

Chapter 4 Cheat Sheet

STANDARD FORM

$$f(x) = ax^2 + bx + c$$

AXIS OF SYMMETRY

$$x = -\frac{b}{2a}$$

VERTEX

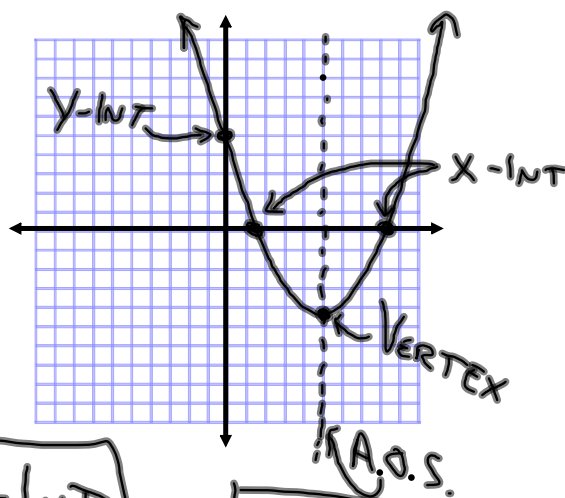
$$\left(-\frac{b}{2a}, f\left(-\frac{b}{2a}\right)\right)$$

Y-INT

$$(0, c)$$

X-INT

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



VERTEX FORM

$$f(x) = a(x-h)^2 + k$$

h | HORIZONTAL SHIFT $\left(\begin{smallmatrix} +h \\ \leftarrow \end{smallmatrix}, \begin{smallmatrix} -h \\ \rightarrow \end{smallmatrix}\right)$

k | VERTICAL SHIFT $\left(\begin{smallmatrix} +k \\ \uparrow \end{smallmatrix}, \begin{smallmatrix} -k \\ \downarrow \end{smallmatrix}\right)$

a | VERTICAL STRETCH

$$0 < a < 1$$

SMUSH (FATTER)

$$a > 1$$

STRETCH (SKINNIER)

$$a < 0$$

(FLIP UPSIDEDOWN)